

CHAPTER XVIII

THE BRIDGE IN “COLOMBAIOTTO” in Bilancino (Archaeological zone “H”)

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1 - The route from S. Lucia to the river Sieve

Orography also helped us to identify the route of the road on the Mugello versant.

From the Futa pass, a ridge reaches Poggione; from here, as mentioned, it descends steeply down the southern versant as far as S. Lucia, covering about 300-400 metres; it then continues along a constant and slight descent as far as the river Sieve. Except for the steep interruption above S. Lucia¹, the most practical route is along the top of the watershed. This route is about 12 km long with a 464-metre difference in level and a 3.8% average gradient.

As the ridge descends, the gradient of its two versants gradually decreases, reducing the risk of landslides.

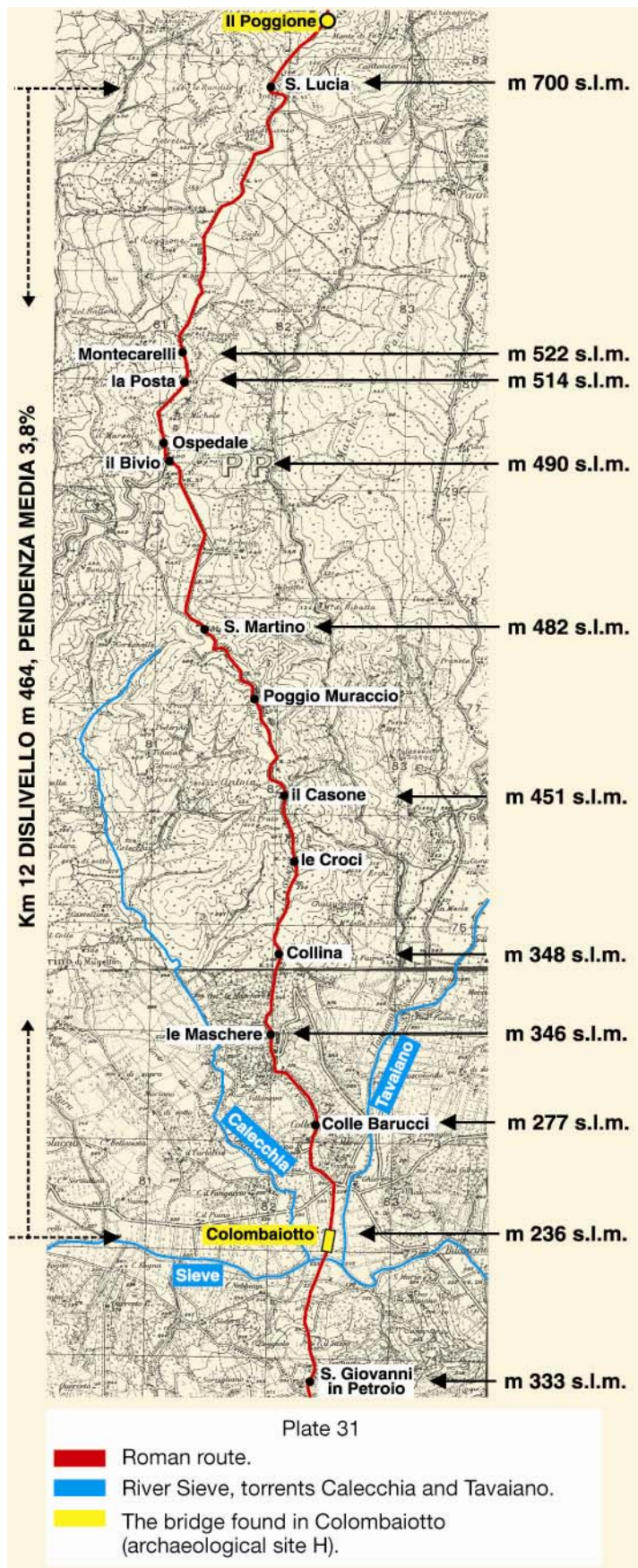
On reaching S. Lucia, even the present-day trunk road 65 from Bologna that wearily crosses the Apennines with its multitude of bends, nimbly passes along the top of the ridge, with numerous straight stretches of road that pass through Montecarelli, Il Bivio, S. Martino, Poggio Muraccio, Le Croci, Le Maschere, Colle Barucci as far as the river Sieve, which it crosses in Bilancino. This is the most practical and scenic route

because it maintains a dominant position, allowing the eye to wander over the mountains crowning the Mugello valley. The same sensation can be felt when pursuing the Roman route on the top of the ridge towards Bologna. We are convinced that during Roman times (as in the Middle Ages), this ridge was used to descend from the Futa pass to the river Sieve, considering there are no alternative routes that are just as practical and direct.

However, this conviction means that the mule track first, the 1762 carriage road and finally, the present-day trunk road all exactly followed the route of the Roman road. Consequently, there was little hope of discovering any finds on this watershed, where the Roman paving has certainly been destroyed and scattered by thousands of years of traffic² and road works. Nor could we attempt any test excavations in the few areas where the trunk road “cuts” across small hillocks on the ridge, taking a lower route. These areas are now dotted with villas or farmhouses of rare beauty, surrounded by carefully maintained gardens and fencing that cannot be trespassed; thus dissuading us from seeking authorisation to carry out test excavations.

¹ See our discussion on this topic in paragraph 3 of chapter XVII.

² In fact, all the stretches of paving we discovered were found in isolated places, and only where the route did not coincide with the mule track.



2 - Theoretical crossing place on the river

Having guessed the Roman route as far as the river Sieve, we had to identify where the Romans would have crossed it to continue to Fiesole.

The source of the Sieve lies in the Calvana mountains, it flows from west to east cutting across the Roman route. After S. Piero in Sieve, it reaches Borgo S. Lorenzo and Vicchio in the east; it then accomplishes a large semicircle towards the south and flows through Dicomano and Rufina and then flows into the Arno at Pontassieve, 18 kilometres east of Florence.

Therefore, the Sieve is an obstacle some 50 kilometres long (from Barberino del Mugello to Pontassieve), which cannot be avoided by following its course along the left bank, because it has to be crossed anyway to reach Fiesole which lies within its semicircle. Considering this hydrographic context, it was logical that the crossing must have been on the exact route of the road, which as well as being straight also featured two other advantages compared to other nearby locations:

- it crossed the upper course of the Sieve, where the flow rate of the river is lower; furthermore, following the straight line between Colle Barucci and S. Giovanni in Petroio, the road crossed the river upstream of its convergence with the torrent Tavaiano, which collects the abundant water flowing down from the Apennine ridge between the Futa and Osteria Bruciata passes.

- this avoided the large marshes formed by the river further down and mentioned by many Mugello historians³. In the map published at the start of the work by Johan Plesner (mentioned in the footnotes), Plesner indicates the plains along the river from S. Piero to Sieve as far as Dicomano as being marshland.

However, there were no remains to prove any of these considerations nor were there any historic sources that mentioned the existence of a bridge in this location.

³Daniele Sterpos: "La viabilità romana e la prima storia del Mugello". Historic-Territorial Documentation Centre of the Mugello. Printed at the print works of the Florence Provincial Administration, page. 4.

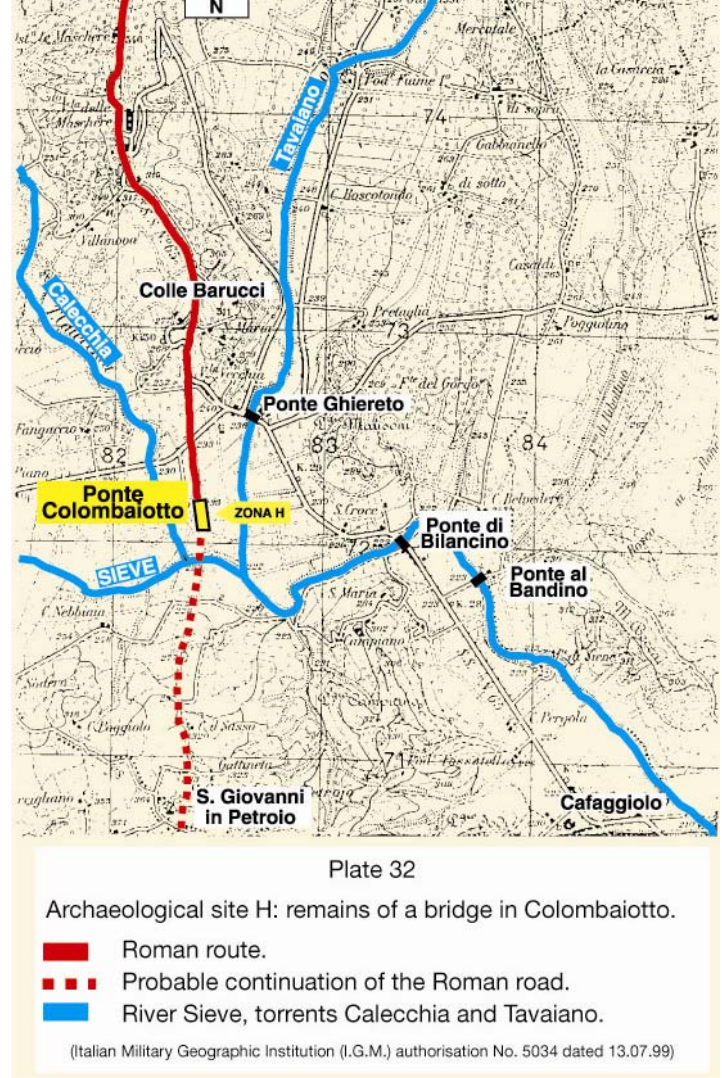
- Johan Plesner: "Una rivoluzione stradale del dugento". Published by Francesco Papafava 1979, page 33: "as can be seen from the map, the road did not entirely avoid the Mugello, just the plains of the river Sieve, undoubtedly because its waters transformed most of the valley in an impracticable marsh".

Medieval history has only handed down the memory of a bridge in S. Piero a Sieve, one in Ghiereto and another in Bilancino (this was not the bridge built in Bilancino when the first carriage road to Bologna was opened in 1762, called the “new bridge”, but it was the bridge in “Al Bandino”⁴). The latter crossed the Sieve for centuries 300 metres downstream of Bilancino, linking Campiano with the road heading north towards Galliano and southeast towards S. Piero a Sieve.

The first bridge cannot be considered because it is removed 4 kilometres towards the east; the second is on the torrent Tavaiano, an affluent of the river Sieve and, therefore, it bears no relation to the crossing over the Sieve; the third actually crossed the Sieve but one kilometre east of the straight line of the Roman route. This position did not match because the road would have had to take a diversion towards the east, following the left bank of the river for one kilometre (heading straight towards the marshes, which it was logical to avoid). After it crossed the bridge, it would have had to return westwards covering another kilometre on the right bank, and then ascend as far as S. Giovanni in Petroio. There was no sense in lengthening the route like this considering that in the 2nd century B.C. the bridge could be built in whatever was the most convenient location.

Therefore, we had no elements to support our theory because the bridge was not where it should be and there was no information indicating there had ever been a bridge there either.

We decided to contact Daniele Sterpos in Florence, an acknowledged scholar and author of numerous publications about ancient and medieval road systems, to inform him about our first finds on mount Bastione and to ask his opinion about the stretch of road built by C. Flaminius after the latest archaeological developments. He answered immediately with the utmost politeness, fixing an appointment with us at his home in the spring of 1981. We went to Florence, proud to be able to show him the photographs of the first stretches of paving found, but also excited about meeting such an important scholar of the subject. We had read his book about road communication between Bologna and Florence and



Bilancino (Municipality of Barberino del Mugello): the ruins of the “Al Bandino” medieval bridge, damaged during the 1943-45 war; a few years ago the ruins were completely demolished to make way for the drainage ditch of the waters from the Bilancino reservoir (photograph by Filippo Bellandi).

⁴ This bridge was partially destroyed during the 1943-45 war and was never reconstructed. Its ruins were recently demolished to make way for the drainage ditch of the waters from the Bilancino reservoir. (We would like to thank Filippo Bellandi for providing us with this information and the photograph of the ruins of the bridge).



Colombaiotto – the Bilancino reservoir: today the river Sieve flows 200 metres further south compared to the remains of the unknown bridge. This photograph was taken in 1997 from the right bank, on the route of the Roman road and where the remains of the bridge were found. This stretch of river is now (March 2000) submerged below the reservoir.

therefore, we were aware of his studies and doubts about the route of C. Flaminius between Bologna and Fiesole⁵. The interview was characterised by his spontaneous cordiality and his willingness to accept our finds as useful factors in unravelling the great problem of the Roman transapennine road system. He believed that on the Tuscan versant, the route of the road descended from the Osteria Bruciata pass, along the course of the torrent Taviano, finally crossing the river Sieve near Bilancino.

The route through the Mugello followed by our road, which continued in a straight line after the Futa pass, could not join the route theorised by Sterpos, although the two theoretical routes both crossed the river Sieve in the same place.

This authoritative opinion confirmed the crossing place. He also informed us that he had changed his initial opinion and promised he would send the

text of a conference he had held in Borgo S. Lorenzo, just a few months earlier (7 February 1981), where he illustrated the conclusions he had reached about the Roman road system in the Mugello.

We soon received the entire text from the conference where he expressed his ideas with these words⁶: “*In my opinion the Roman road, that is the “Flaminia Minore”⁷ descended along the Tavaiano to the Sieve and met the Sieve more or less near Bilancino (omissis). I believe that, once he entered the Mugello valley, Flaminius headed towards Fiesole. He may have crossed the Sieve near Bilancino, where the river banks were probably more solid, thus avoiding an area towards the east which was perhaps marshy*”.

Sterpos’ intuition, pronounced in 1981, later proved to be prophetic when in the 1990s, less than one kilometre west of Bilancino, the grandiose remains of an unknown bridge were discovered.

⁵ Daniele Sterpos: work cited, page 11 and later.

⁶ Daniele Sterpos: “La viabilità romana e la prima storia del Mugello”, page 4.

⁷ Here Sterpos calls the road built by the consul, C. Flaminius the “Flaminia Minore” because he considers it to be the Tuscan continuation of the route theorised on the Emilian versant by Nereo Alfieri (and which Alfieri calls the “Flaminia Minore”).



Bilancino reservoir (autumn 1997): *panoramic view of the Sieve valley a little west of Bilancino where the dam was built (left). The reservoir is still dry but the remains of the Colombaiotto bridge at the centre of the reservoir cannot be seen because covered by the trees in the foreground.*

3 – News about the remains of a bridge near Bilancino (in Colombaiotto) and its whereabouts

1994 was undoubtedly a particularly prodigious year in terms of results for our research.

In February, the first stretch of the paved road on Poggione (south of the Futa pass) was found, where we unearthed the most compact and majestic blocks of paving.

In April, we heard about the casual find of a number of piers belonging to an unknown bridge, discovered during excavation work

to construct the “Bilancino” reservoir on the river Sieve.

Bilancino is a small village in the Municipality of Barberino del Mugello, where trunk road 65 from Florence to Bologna crosses the river Sieve, a little north of the famous Medici Cafaggiolo villa. About 400 metres west of the village, the Sieve valley is squeezed between two hills. A plan had been drawn up to build a dam here to create a large water reservoir to serve Florence and to manage the course of the river Sieve, which due to its torrential nature often caused widespread damage when abundant rain fell. Upstream of the dam, the Sieve valley widens considerably, to the extent that it becomes a reservoir capable of holding millions of cubic metres of water. Work to create the reservoir started during the 1980s, with the construction of the dam as well as a number of super-elevated viaducts to ensure the continuity of the roads that would end up under water once the reservoir was filled.

Imposing excavation work was also carried out upstream of the dam to quarry material useful for the construction work and at the same time to increase the capacity of the reservoir. In the spring of 1992, while carrying out this work on the “Colombaiotto” farm, about 200 metres north of the present-day course of the river Sieve, the remains of six piers belonging to an unknown bridge were discovered. They were buried 5-6 metres below surface level, where within living memory, only cultivated fields had ever existed.



Bilancino dam (April 1994): *the remains of an unknown bridge were discovered about 200 metres upstream of the dam.*



This discovery was a great surprise for everybody, even Luca Fedeli from the Archaeological Superintendency (the person in charge of the area), during a recent conference expressed the following words⁸: *“The ruins were inspected on 6 July 1992. You can hardly imagine my amazement considering that they stand in an area where no-one (in living memory) has ever mentioned the existence of any such ruins in the Mugello valley, nor the existence of a branch of the Sieve (which flows a few hundred metres further south)”*.

We added our curiosity to everyone’s surprise and immediately went to have a look at the place.

Thus, we saw for the first time the stubs of the piers emerging from the low-lying marsh formed by the rain in the large and deep excavation carried out during former years upstream of the dam construction. The upper part of the piers lay 4-5 metres below ground level, where just a few years before there had been pastures and crops. The pentagonal shape of two piers appeared to be intact, whereas the third was partially broken, but anyway sufficiently preserved to reveal the same pentagonal shape. The others had been partially buried and demolished by the excavators before anyone suspected the existence of the ruins of a bridge so far from the present-day riverbed.

Although the ruins were by no means

spectacular, they were very exciting because we felt we had stumbled across the missing piece in the Roman route from Bologna to Fiesole. Their position and layout coincided perfectly with the route we had theorised through the Mugello, confirmed by the paving found south of the Futa pass the preceding February.



Colombaiotto bridge (archaeological area “H”): *the ruins of the bridge as they were in April 1994 when we carried out our first inspection. Note the dirt track on the left made by the Consortium building the dam to allow access from ground level down into the large and deep excavation.*

⁸ Extract from the text written by Luca Fedeli for the minutes of the 1997 Convention in San Sepolcro, Badia Tedalda and Sestino, page 2.



Bilancino dam (April 1997): *The Bilancino dam and the dry reservoir photographed from the south. In the foreground stands the bell tower of the church of S. Giovanni in Petroio and, in the background, the new viaduct on trunk road 65 (Florence-Bologna), built to replace the former route submerged by the reservoir water.*

Our thoughts went to the words of Daniele Sterpos who, thirteen years earlier, had guessed that the consul, C. Flaminius, must have crossed the Sieve near Bilancino.

However, these feelings and coincidences had yet to undergo archaeological verification: the discovery was anyway very important because the unexpected location of the find was irrefutable proof of its age.

4 – What should the unknown bridge be called?

The bridge obviously did not have a name, some called it “Bilancino” (which referred to the reservoir under construction) and others called it “Colombaiotto”, after the name of the farm and farmhouse very close by (demolished because destined to be submerged by the reservoir water).

The Tuscan Superintendency also initially called it “Colombaiotto”, it then

decided to call it after the village of S. Giovanni in Petroio, south of the Sieve on the hill overlooking the reservoir ⁹.

We do not agree with the choice of this name, although the village of S. Giovanni in Petroio is on the axis of the Roman route coming from the north.

There are two reasons for this:

- the exact location of the find is in “Colombaiotto” and therefore it is right to remember the bridge with the place name that suffered the same fate as the bridge: both submerged by 30 metres of water. Furthermore, S. Giovanni in Petroio is not in the reservoir area but on the hill facing the reservoir, 1.5 kilometres south of the present-day course of the Sieve:

- the historic sources that induced the Superintendency to make this choice are apparent from Fedeli’s words. Fedeli has assimilated Plesner’s opinion who refers to S. Giovanni in Petroio as a “*plebato*” (parish) defined as “*pontificio*”, that is responsible for looking after bridge maintenance. Linking this specific task entrusted to the parish of S. Giovanni in Petroio to the discovered bridge may be confusing to some. It implies that

⁹ Luca Fedeli: work cited, page 2: “At the time the latter was named “*del Colombaiotto*” after the name of the nearest farmhouse (which had already been demolished); it now appears appropriate to call it “*di S. Giovanni in Petroio*” after the name of the parish (defined as “*pontificio*”, that is responsible for bridge maintenance).



Colombaiotto bridge (archaeological zone “H” – April 1994): the remains of two of the piers that emerged during the excavation work to build the Bilancino dam (in the background) as they appeared on the day of our first visit to the location.

Plesner defined the parish of S. Giovanni in Petroio as “*pontificio*” in reference to this unknown bridge, whereas it is obvious that the Danish scholar was referring to Bandino bridge, near the village of Bilancino, one kilometre further east and in use from the Middle Ages¹⁰.

Plesner’s thoughts are clear and unequivocal¹¹: when he states that the main lay task of the parish of S. Giovanni in Petroio was to maintain the bridge, he is referring to Bandino bridge, slightly downstream of Bilancino, in use during the 13th-14th centuries, and not the bridge which had just been discovered and which was utterly unknown at that time¹². That

Plesner intended the bridge that at the time stood 300 metres downstream of the village of Bilancino (and which therefore he called “*del Bilancino*”) and not the newly discovered bridge, is confirmed in his conclusion when he points out that “*there is still a good mule track from Bilancino bridge, passing through S. Giovanni in Petroio, upwards... (omissis)*”.

Plesner’s “today” is the 1930s, when the bridge had yet to be discovered.

Due to these considerations, we think “Colombaiotto”, the name of the exact place where the bridge was found, is more appropriate.

¹⁰ See note 4 in paragraph 2 of this chapter.

¹¹ Johan Plesner: work cited, pages 35 and 36: “*like the S. Agata road, the Bilancino bridge road was a shortcut to the older Roman road (omissis). The existence and the route of this road are clearly due to the size and the “pontificia” status granted to the parish of S. Giovanni in Petroio. The church stands on the hills south of the Sieve; its parish includes the entire northern versant of the Canibiate hills down towards the most western plain of the Sieve, whose entire south bank belongs to the same parish. Beyond the river, only the Bilancino bridge area belongs to S. Giovanni in Petroio and the position of the parish on the southern hill above the bridge clearly demonstrates that the maintenance of the bridge was the principle lay task of the parish (omissis). There is still a good mule track from Bilancino bridge, passing through S. Giovanni in Petroio, upwards towards Cupo, and downwards through the parish of Legri and on to the parish of Calenzano, where it joins up with the main Florentine Valdarno road*”.

¹² When Plesner, mentions the Bilancino bridge in reference to the bridge maintenance entrusted to the parish of S. Giovanni in Petroio (13th-14th centuries), he could certainly not have intended the bridge on the Sieve in Bilancino constructed in 1762, when the first carriage road to Bologna was built, called the “new bridge”.

5 – Our first inspection and the excavations by the Superintendency (archaeological zone “H”):

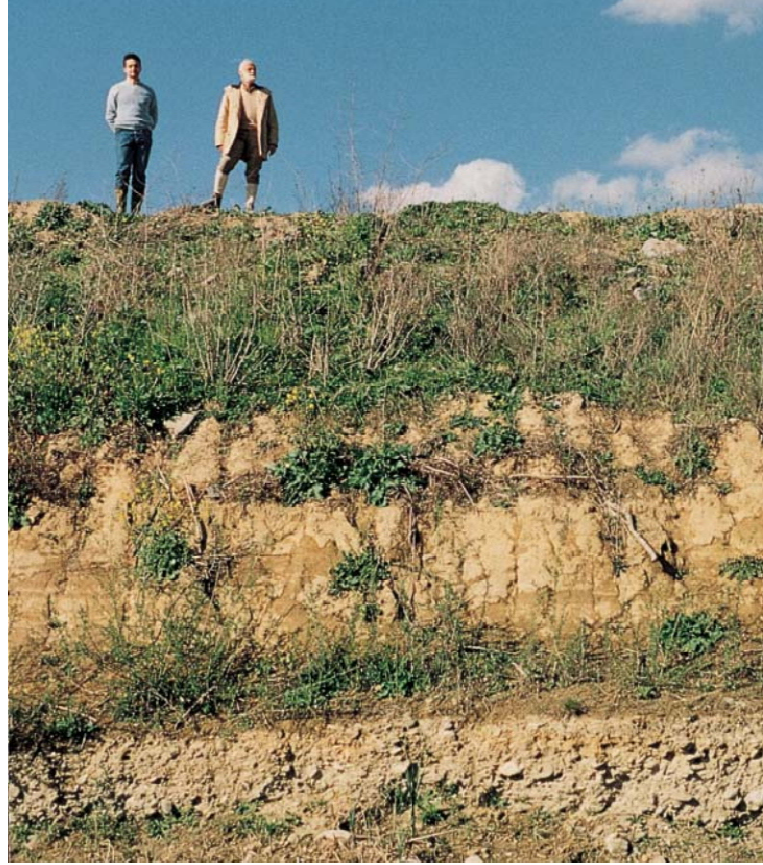
In April 1994, when we saw the remains of the bridge, only 120-130 cm of the ruins emerged from the bottom of the huge excavation, covered by scattered puddles, which had formed after the rain. The remains were nothing special from a monumental point of view, but were of great archaeological importance, especially for our research.

We climbed down to the bottom of the excavation, taking care not to slip down the uneven path over the sedimentation, which formed the edge of the 5-6 metre deep excavation. We then climbed onto a pier and looked around us: we were about 4-5 metres below ground level; northwards was the clean cut of the excavation revealing the various layers of sediment. The lowest layer consisted in a one-metre thick *lens* of gravel and pebbles. Towards east, at a distance of about 200 metres, the pale wall of the almost finished dam blocked the view of the village of Bilancino; towards south, the other equally clean cut of the excavation outlined a strip of land about 200 metres wide, covered by dense vegetation and not affected by the excavation, beyond which flowed the present-day bed of the river Sieve.

We then wondered how many centuries had been needed for a 5-6 metre layer of alluvial material (carried by the torrents Tavaiano and Calecchia from the north) to submerge the bridge and shift the bed of the river Sieve 200 metres further south. The present-day position of the bridge in relation to the function it was built to perform, convinced us that it must have been constructed long ago and certainly at a date compatible with the Roman age.

These sensations were doubtlessly the result of the excitement caused by the unexpected appearance of the remains and we eagerly awaited archaeological verification.

In fact, only the remains that had escaped the excavators (and the remote natural catastrophes that preceded them) emerged from the ground. Fortunately, the Archaeological Superintendency immediately cordoned off



Colombaiotto (archaeological area “H”): *the clean cut of the excavation to construct the Bilancino reservoir highlights the 5-6 m depth of the excavation where the remains of the bridge emerged. Note the “lens” at the bottom consisting in about 1 metre of gravel and pebble sedimentation indicating the level of the ancient bed of the river Sieve, which now flows some 200 metres further south. Andrea Agostini and Carlo Alvisi are standing on the edge of the excavation*

the area, and scheduled archaeological digs to unearth the remains of the piers and whatever else lay below the remaining undisturbed soil. These campaigns were carried out from 1995 to 1998 and took about 5-6 months of actual work. The most demanding and important digs were carried out on the north side of the reservoir excavation, and unearthed the abutment of the bridge. Another dig near the better-preserved pier encountered numerous difficulties due to water seepage and consequent flooding.

In spite of these problems, very satisfactory results were achieved which gave us an idea of the architecture of the bridge, although some doubts persist because we were unable to uncover the complete structure.

For an exact and detailed description of the bridge by Vittorio Galliazzo, please refer to paragraph 7 in this chapter.

6 - Historic investigation regarding the era of the first bridge built in Colombaiotto and the dating of the wooden remains.

With the unexpected discovery of this unknown bridge came the problem of establishing when it was built and when it was last used.

It was immediately clear that the importance of the structure could only be justified by the existence of a busy main road. Its position along the ridge route descending from the Futa pass affirms that it belonged to the transapennine road. Seeing as the bridge was unknown to living memory, historic archives were immediately investigated

to see if there was any information regarding its construction or at least its existence. Building a bridge of this size must have undoubtedly been demanding in terms of economics and technology, and could not have escaped medieval chronicles about the history of the Mugello valley. Unfortunately, archive sources rarely date back to earlier than the 12th-13th centuries and so it was necessary to be content with searching for direct and indirect information from later documents. However, an attentive study of works by past Tuscan historians¹³ who investigated the events of the Mugello mentioned in the oldest available documents, revealed nothing¹⁴. Cristina Ducci¹⁵ was asked by the Archaeological Superintendency for Tuscany



“Colombaiotto” (archaeological zone “H” – September 1997): archaeologists from the Superintendency for Tuscany investigating the north abutment of the bridge.

¹³ We refer to: E. Repetti, P. Lino Ghini, G.M. Brocchi and the most recent scholars: Johan Plesner, Gabriele Ciampi, Leonardo Rombai.

¹⁴ We would like to remind the reader that we do not share the same opinion as the Superintendency for Tuscany, already mentioned in terms of the name to give the discovered bridge. We are convinced that when Johan Plesner mentioned the parish of S. Giovanni in Petroio as “*pontificio*”, (that is responsible for bridge maintenance) he was referring to the “al Bandino” bridge which existed in the 13th century in Bilancino and not this new, unknown bridge.

¹⁵ Chairlady of the “Lega di Tagliaferro” Archaeological Group in S. Piero a Sieve.

to carry out specific research in the archives and arrived at the same conclusion. The oldest map found dates back to the 16th century and does not provide any information about the bridge. Fedeli had the following to say about this¹⁶: “the oldest maps of the area found (that is those from the archive of the maps of the “Popoli e Strade dei Capitani di Parte Guelfa”) date back to the second half of the 16th century and they make no mention of the bridge (nor do any later maps). However, it would be untrue to uphold that these maps were not useful: they are. Their “e silentio” or silence implicitly attests that the bridge of S. Giovanni [that is Colombaiotto] was not only older than the map but also had already disappeared when the map was drawn”.

He goes on to mention¹⁷ another significant item of “silent” information which appears in a 1385 deed of purchase by a member of the illustrious Adimari family (Luigi, son of Roberto) regarding a house and farmland called “Colombaia” located on the map of the “Carta dei Capitani” in the area of “Colombaiotto”, in the exact place where the bridge was found. Therefore, if in 1385, the house and farmland already stood where the bridge was found, this means that the bridge had already been submerged by a consistent layer of alluvial material and the course of the river had shifted further south, so much so that it was possible to build the Colombaiotto house and farm the surrounding area without the risk of flooding.

While this historic research was being carried out, samples from wooden beams found in the bridge area were also analysed. On 9 June 1994, we took part in the removal of two samples by Agostino Salomoni from the E.N.E.A. C/14 laboratory in Bologna, in the presence of Fedeli. A number of small wooden beams emerged from a block of conglomerate made of pebbles and stones (part of pier II). The beams were so firmly encapsulated that it was necessary to smash the masonry.

The other sample was taken by sawing a piece of a large wooden beam found on the bottom of the excavation, near pier VI.



Colombaiotto bridge (9 June 1994): a sample of wood material is taken from a conglomerate of pebbles and limestone which was probably part of the remains of pier II. Franco Santi removes the sample (Bo 381) under the attentive eye of Luca Fedeli and Agostino Salomoni from E.N.E.A. in Bologna. Note the uneven wall of the deep excavation in the background on the bottom of which the remains of the bridge were found.



Colombaiotto bridge (9 June 1994): a sample of wood is taken (sample Bo 396). The sample is sawn from a large beam lying on the bottom of the excavation near pier VI. Franco Santi is assisted by Luca Fedeli from the Archaeological Superintendency and Agostino Salomoni from E.N.E.A in Bologna.

¹⁶ Luca Fedeli: Report for the minutes of the 1997 Convention in San Sepolcro, Badia Tedalda and Sestino, page 5.

¹⁷ Report cited, page 6.

The first sample of wood (BO 381) was dated back to 907 B.P. years (give or take 60 years), that is between 1027 and 1147 A.D. Instead, the other sample (BO 396) was dated back to 2820 B.P. years (give or take 40 years), that is between the years 866 and 786 B.C.¹⁸.

On 19 August 1994, another sample was taken by Giuseppe Longo, from the Department of Physics of Bologna University, from another piece of wooden beam buried in the same conglomerate (pier II) from where sample BO 381 was also taken; he sent the sample (BO 394) to the "Isotrace" laboratory in Toronto (Canada) which sent the following dating: 979-1028 A.D.; thus confirming the dating on the first sample (BO 381) by the E.N.E.A. laboratory in Bologna.

7 - The remains of the bridge (archaeological zone "H") described and dated by Vittorio Galliazzo.

The results of the analyses carried out on the two different samples of wood, whose date swings between 900 B.C. to 1000 A.D., opened the way for interpretations that will not fail to arouse debate and discussion.

What was the function of the beams encased in the remains of pier II? Moreover, what relation was there between the masonry bridge and the wooden beam dating back to the 10th, 9th century B.C. found near pier VI?

In spring 1999, we turned to Vittorio Galliazzo, Professor of Archaeology and Greek and Roman History of Art at the University of Venice, to see if he could answer these questions, being the most authoritative scholar of this specific subject and author of a monumental work about Roman bridges ¹⁹.

Although, he had not seen the finds in person nor was he able to visit the location because the reservoir was already full of water, he was very willing to express an opinion, based on the survey and drawings carried out to represent the exact dimensions of the remains of the bridge, numerous photographs and the results of the C/14 carbon testing on two different samples of wood, used during eras distant from each other.

After examining the documentation, he sent us a detailed report with an exact description of the structure of all the finds, his relative technical evaluations and his conclusions.

To provide an in-depth knowledge of these vestiges and for the pleasure of all those specifically interested in ancient travel, we have included the entire text of his report.

¹⁸ The certificates of these analyses carried out by E.N.E.A. in Bologna are enclosed herein (documents 14 and 15).

¹⁹ Vittorio Galliazzo "I Ponti Romani". published by Edizioni Canova, Treviso, 1995, volumes I and II.

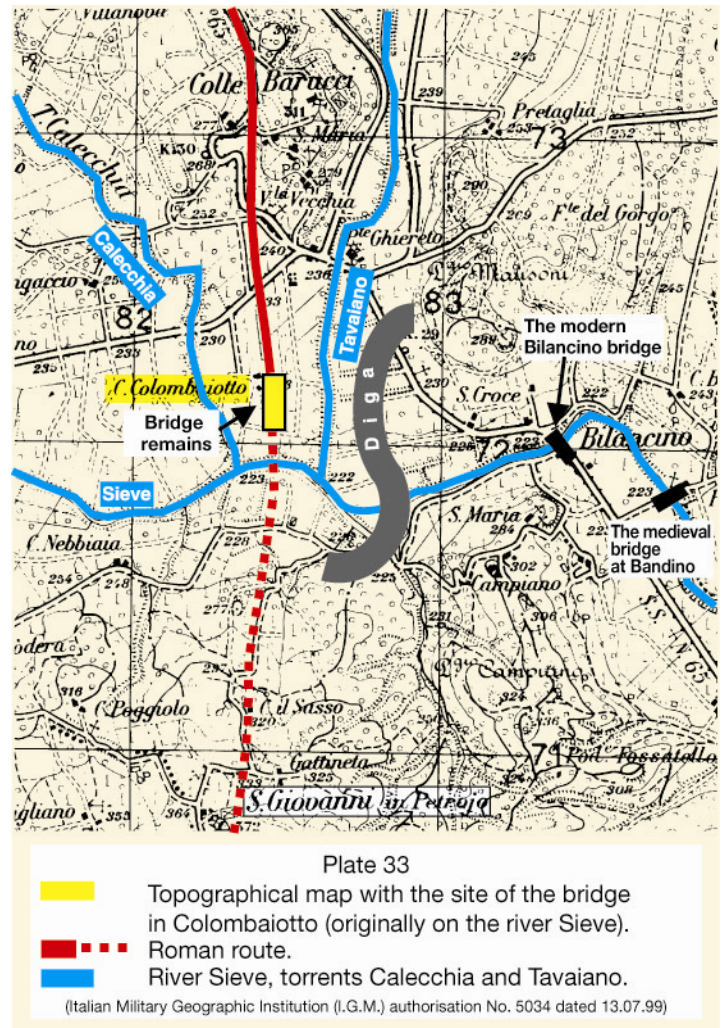
This work consists in 1265 pages with 535 photographs and drawings. It researches and illustrates the structure of 1560 Roman bridges. Raymond Chevallier made the following comments during the presentation of the book: "*The first volume is an excellent summary, solidly constructed, very detailed and exhaustive, and it deals with every possible historic and archaeological problem: pre-Roman experiences which may have inspired Rome (even in original ways), the role of bridges in history from antiquity to the present-day, architectural analysis and types of bridge, the various work phases from design to construction...* (omissis). *Worthy of particular appreciation is the detailed analysis of the various construction elements, from their structural role, from the foundations to the road surface, without overlooking decorative elements, complementary devices and defences. The methodological conclusions regarding the dating and symbolic significance of bridges as a means of communication at the heart of Roman civilisation...* (omissis). *The catalogue in the second volume, the foundation of the work, provides the reader with a huge amount of precise documents and is of great use : 931 information sheets deal with preserved or certified bridges; 460 of these are in Italy, 72 in France, 142 in Spain, 30 in Germany, 29 in Great Britain...* (omissis).

**THE SO-CALLED “COLOMBAIOTTO” BRIDGE
ON THE RIVER SIEVE IN MUGELLO
(FLORENCE). A grandiose medieval bridge built on
ancient remains.**

In 1992, during large-scale excavation work to enlarge and create a level area for the artificial reservoir created by the Bilancino dam with the waters of the river Sieve in the Municipality of Barberino di Mugello in the province of Florence, about 200 metres upstream of the dam and at a depth of some 5-6 metres compared to the present-day ground level, the remains of an imposing medieval bridge were unearthed²⁰. Because the bridge was located near an old farmhouse (now demolished) called “Colombaiotto”, the bridge was (rightly in my opinion) called Colombaiotto bridge, although others have decided to call it the “Bridge of San Giovanni in Petroio” due to a nearby parish located further south, once defined as “pontificio”, that is responsible for bridge maintenance”²¹(table 33).

Colombaiotto bridge turned out to be a discovery of exceptional interest because it lay a few hundred metres north of the present-day course of the river Sieve, where no document has ever recorded that the main course of the river Sieve nor any secondary branch of the river flowed.

At the moment, the entire reservoir created by the Bilancino dam is full of water; therefore, this analysis of the bridge in question is based only on verbal, written, graphic and photographic



indications provided by Cesare Agostini and Franco Santi from Bologna, who

²⁰ I owe this information, the measurements, the graphic and photographic records to the kind efforts and the passion for antiquity of Cesare Agostini and Franco Santi from Bologna who I would warmly like to thank. As regards the bridge in question, consult especially: L. Fedeli: “Il ritrovamento di un ponte a San Giovanni in Petroio sulla strada Regia romana”, in the Minutes of the '97 Convention in San Sepolcro, Badia Tedalda and Sestino, page 9 and elsewhere, currently being printed: this also includes a detailed report regarding two test digs carried out. As regards the restoration work on Colombaiotto bridge, refer to G. Scotti: “Il ponte di San Giovanni in Petroio; i lavori di consolidamento e restauro delle strutture superstiti, effettuati nel 1995”, also currently being printed.

²¹ As for San Giovanni in Petroio “pontificio” please refer to V.J. Plesner, “Una rivoluzione stradale del Dugento”, in Acta Jutlandica (Aarskrift for Aarhus Universitet, X.1), Koebenhavn 1938, page 26.

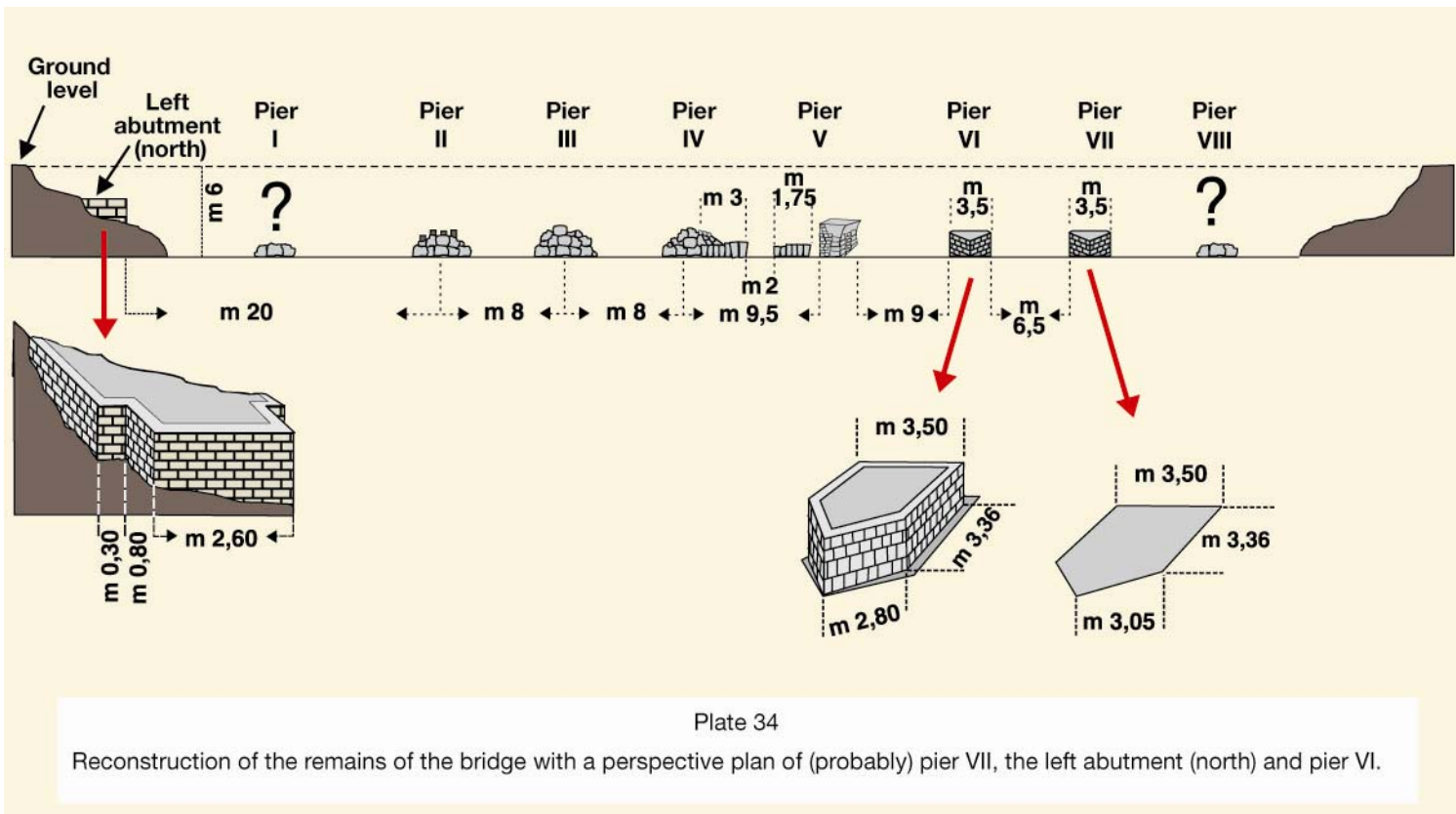


Fig. 170 – Colombaiotto bridge. General view of the bridge from the probable pier VII towards the surviving left abutment.

with thoughtful and careful attention for ancient remains and as members of the Bruscoli Archaeological Group (Florence), for over twenty years have been investigating the route of the ancient road from Bologna to Florence that leads to the bridge. More recently, they have also been investigating the Colombaiotto bridge, which evidently must have crossed an abandoned branch of the fast-flowing river Sieve.

As shown by this stretch of riverbed, this torrential watercourse once flowed from west to east and then descended southwards converging with the Arno in Pontassieve²².

As for the imposing remains of the construction under examination, when discovered the remains proved to have an alignment that spanned a length of some 90 metres (a length of 90-100 metres cannot be excluded considering that its southern

right abutment was never found), while its width was presumably about 3 metres (table 34). The following remains of this structure were found: (proceeding from left to right, that is from north to south) the remains of at least six pentagonal piers (or better, with a rectangular body and a triangular forestarling) about 3.50 metres wide and overall about 4.20 metres long, and indication of at least another two, equalling a total of eight more or less preserved piers (especially piers V, VI and VII from left) supporting 9 spans which proved to have an average span (equal to the distance between adjacent piers) of about 7 or 8 metres, except for span VI from the left which reached about 9 metres and span VII which reached about 6.50 metres (fig. 170).

More particularly, the north abutment on the left (figures 171-173) showed a



Fig. 171 – Colombaiotto bridge. *Left abutment (north) general view from downstream.*

²² Unfortunately our investigation failed to collect any great quantity of data or information because it was not carried out by bridge experts (as regards cavities in the piers, the dimensions of keystones and wedges, the quality of the materials, assembly cavities or holes, the structure of the wing walls and more). As for the profile of the intrados of the spans, from the few indications that we have, it is believed that they were “flat arched” to avoid an excessive crown on the road surface, of which there was absolutely no trace.

dual articulation: the larger portion connected to the road was about 2.90 metres wide and about 2 metres deep, while the part facing the river featured an 80 cm projection and was 2.60 metres wide, creating with the former part an offset measuring 30 cm (only upstream). From a technical-construction point of view, the entire abutment consisted in a dry stone nucleus with mortar poor in lime and aggregate made of crushed stone and pebbles from the river. The masonry facing made of small to medium limestone blocks had clearly been installed using two different techniques: the regular square technique used to build the lower part features alternate dry stone courses of hewn stones with a modest thickness followed by a course of very thick stones. This technique was used in antiquity as well as later;

Fig. 172 – Colombaiotto bridge. Left abutment (north): general view of the road that reaches the artificial lake of Bilancino, below whose waters lie the remains of the bridge.

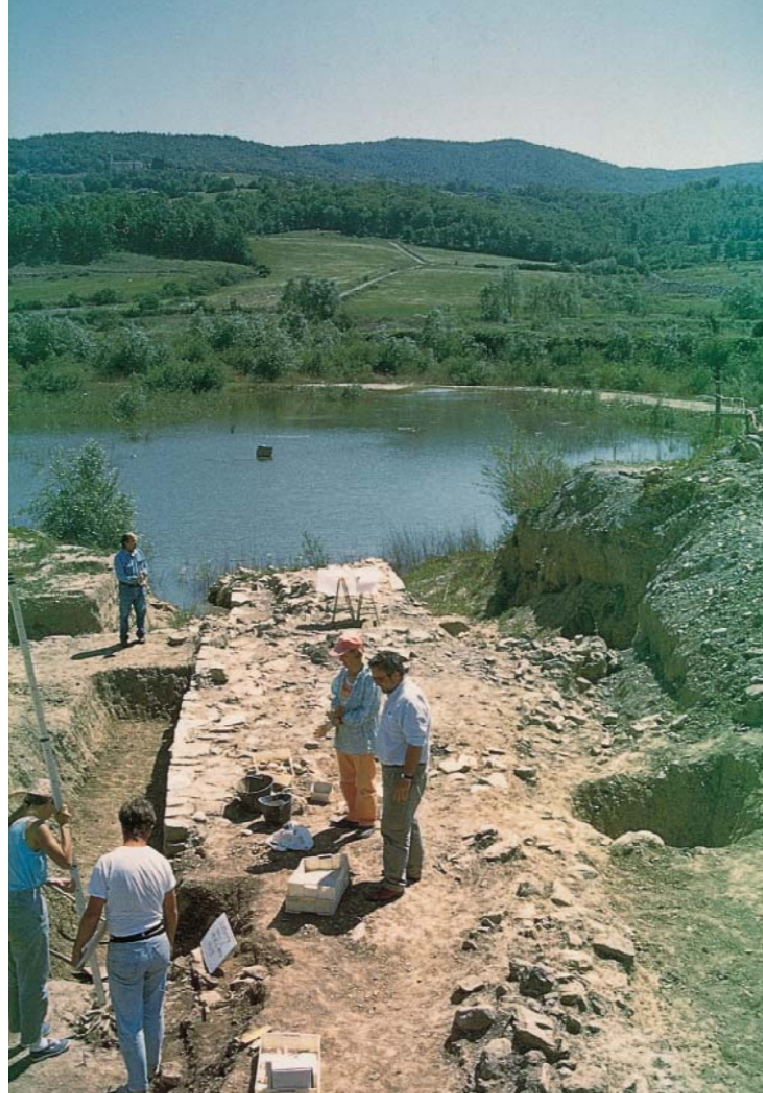


Fig. 173 – Colombaiotto bridge. Left abutment (north): downstream view of the abutment with the start of an arch and three cavities on the level of the springers.

whereas on the upper part, the courses of hewn stones and the stones themselves are extremely irregular. Therefore, this is clearly a medieval structure, also affirmed by the abundant use of earthy mortar between one stone and another.

Two other details worthy of note can be seen in the façade of the abutment facing the river: the two upper courses (the lower modest, the upper of large proportions) consist in voussoirs which were part of a span (now collapsed). On the level of the springers it is possible to note three somewhat deep cavities (one central and two lateral) which were either used to house the beams of the wooden centre used to build the span, or as cavities to house the ends of the main beams supporting the wooden bridge, or the beams of a wooden bay constructed after the span had collapsed (however these cavities may have been used to build the stone span and then re-used later to make the wooden bay during restoration work).



Fig. 174 – Colombaiotto bridge. Remains of probable pier II with the piles encased in its nucleus.

The extremely modest remains of pier I (from the left) appeared to stand about 8 metres from the abutment described above, but it was not possible to glean any knowledge about their construction. Pier II was more interesting. All that remained was the nucleus in opus incertum made of hard mortar and aggregate consisting in crushed stone and pebbles. The nucleus featured various wooden piles (at least 4) without



Fig. 175 – Colombaiotto bridge. The collapsed span between piers IV and V from left.

pile shoes. The piles were encased and consolidated in the body of the nucleus: when one of these was subjected to C.14 dating at the "Ente per le Nuove Tecnologie, l'Energia e l'Ambiente (E.N.E.A.)" [Organisation for New Technologies, Energy and the Environment] in Bologna in 1994, the result was calibrated (with 95.4% confidence) between 1020 and 1260 A.D.; therefore this proved to be wood from the Middle Ages ²³ (Fig. 174). Piers II and IV consisted in piles of opus incertum with remains of hewn stones whose distance between centres measured some 8 metres.

Of great importance was the discovery of a collapsed span between piers IV and V from left (right at the centre of the bridge), as well as a section (from the springer to one rein) which was still standing in terms of 5 courses of voussoirs on the left flank of pier V (see figures 175-176). Therefore, we know that the probable span V of the bridge (the most important because on the presumable axis of the current) was certainly made of wood with well-made head arches consisting in voussoirs of varying thickness but with a more or less regular height, even if all were laid using lime as a bonding agent, although of minimum thickness. Furthermore the portion of span still standing on pier V did not appear to feature any cavities for supporting the wooden centre on the level of the springers, nor any other cornice, whereas at least one voussoir on its arch head clearly featured a cavity to house an iron or lead cramp (now disappeared) which had no structural significance in this position. As concerns the surviving header walls of the tympanum supports (especially those in direct contact with the extrados of the header arches of the collapsed span), these covered the nucleus of the bridge which was also made of dry stone (as was the rest of the bridge): furthermore these featured hewn stones bonded using mortar in a masonry fabric consisting in small hewn stones with somewhat irregular sizes.

Pier VI was very interesting for various reasons: it was the only clearly legible pier from its foundation through most of its elevation: furthermore, its foundations were later excavated



Fig. 176 – Colombaiotto bridge. Remains of courses of voussoirs still standing on the left flank of pier V downstream (they belong to the span illustrated in figure 175).

revealing the complete absence of any supporting pile-work, which is always the case in indirect foundations (see figures 177-178). From what can be understood today from this surviving pile, we know that it (and presumably the others too) had a pentagonal plan with an average width of about 3.50 metres and a length of 3.36 metres



Fig. 177 – Colombaiotto bridge. The probable pier VI seen from the south on the foundation plinth.

²³ In fact, there is no reference made in the report sent by E.N.E.A. in Bologna to Fedeli-Agostini about the quality of the wood (defined as "externally semi-charred and damp"). The B.P. dating is indicated as 907 + or - 60 B.P.



Fig. 178 – Colombaiotto bridge. *The impressive rostrum (forestarling) upstream of pier VI.*

to which we have to add a triangular starling (forestarling) about 80-85 cm long with 2.80 metre sides. Its nucleus was made of opus incertum as described earlier, while the outer layer appeared to made of hewn limestone blocks which were large in the lower portion and of modest volume in the upper portion, even if both parts had been constructed fairly regularly (a large hewn stone on the southwest side of the forestarling features a non-functional cavity which housed a cramp). The entire body of the pier was supported by a foundation socle consisting in aligned limestone slabs which project outwards (compared to the plan of the pier) by about 25 cm (downstream) and about 35 cm upstream (near the starling).

The presumed pier VII was structured in the same way (although smaller): the only difference could be seen in the forestarling whose oblique side measured 3.05 metres on either side (fig. 179). We know little or nothing about pier VIII, while no excavation was carried out near the presumable southern abutment on the right: this area was not included in the excavation to create the water reservoir.

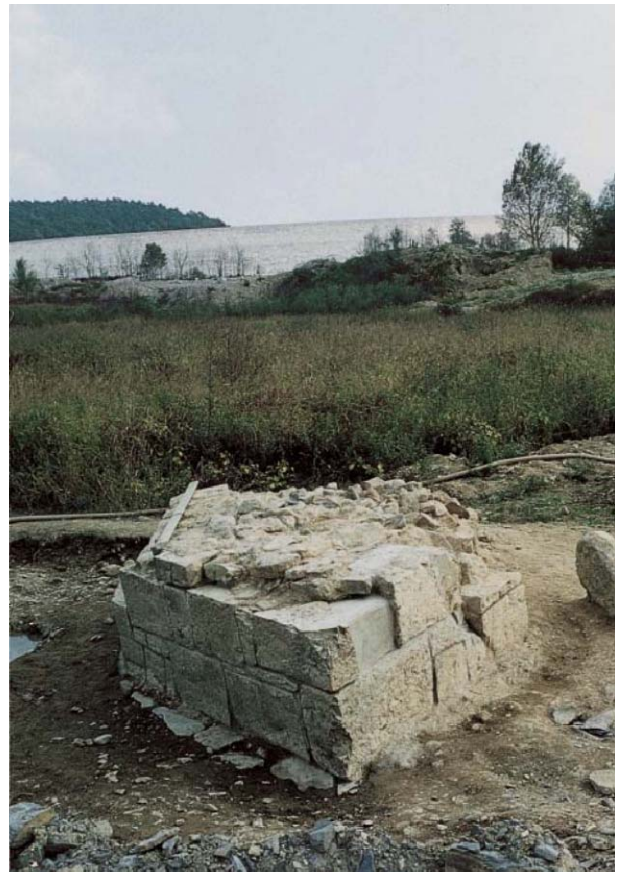


Fig. 179 – Colombaiotto bridge. *The probable pier VII seen from upstream.*

Finally, near pier VI from the south and left, a large beam was discovered which was about 3 metres long and with a quadrangular transversal section measuring some 0.30 by 0.25 metres (fig. 180). In 1994, this beam was also subjected to C.14 dating in the E.N.E.A. laboratory in Bologna which provided an age calibrated (with 95.4% confidence) between 1060 B.C. to 840 B.C.²⁴

The exact age of the road is still open to discussion. The road came from the north, crossed the river Sieve over this bridge and probably continued onwards to Florence, not far off. The twenty years of study, research and discovery by Cesare Agostini and Franco Santi, confirmed by impressive stretches of almost certainly ancient road (which can be dated back to the 2nd century B.C.), as well as the opinions (sometimes critical) of extremely competent scholars such as Raymond Chevallier and Giancarlo Susini, would date some stretches of the route to the Roman age and more precisely the mid-republican age, although considering the lack of more consistent proof, I do not wish to identify in this road route the via Flaminia minor, that is the military road opened according to Livy (XXXIX, 2) in 187 B.C. between Bologna and Arezzo²⁵.

An interpretation of the remains of this extremely important bridge (at least in terms of its proportions) appears difficult. Almost certainly, the remains of the abutments and the piers recently discovered can be dated back to the Middle Ages (probably the 11th or 12th centuries when Florence became increasingly important from the point of view of trade and politics²⁶. During this period, the entire structure must have been made of local stone or stone that was partly recuperated from nearby monuments (as proved by the cramp cavities which had no functional use in their present location) and it must have stood on direct and indirect foundations depending on the quality and



Fig. 180 – Colombaiotto bridge. Wooden beam found near pier VI.

consistency of the riverbed (the piles in the nucleus of presumed pier II - which was partly upturned - were probably part of indirect foundation pile-work). It is possible that during the 12th or 13th centuries, this medieval work of great beauty for its time, collapsed at least in part due to a flood. Perhaps the ruined spans were then replaced by a wooden beam truss system creating a "mixed" bridge, that is with a masonry under-structure and a wooden super-structure (could the three visible cavities on the abutment springer have been used to support one such wooden structure?).

It is possible to imagine (although also backed up by valid analogical and documentary evidence) that the important medieval version of the bridge was preceded by a wooden bridge of the "wooden pier or pile" type (*pons sublicius*) dating back to Roman times at least. Therefore, it is possible that the lower, well-constructed part of the left abutment of the medieval bridge is none other than the ancient abutment which contained the road and supported the first wooden bay from left. It cannot be

²⁴ The report sent by E.N.E.A. in Bologna to Fedeli-Agostini does not include any reference regarding the quality of the wood (it is defined simply as "wood"). The B.P. age is indicated as 2820 ± or - 40 B.P.

²⁵ As regards the road system that served the bridge in question, please refer to: G.A. Mansuelli: "La rete stradale e i cippi millari della Regione Ottava", in "Atti e Memorie di Storia Patria per l'Emilia e la Romagna", volume VII, 1941-1942, pages 33 and later: including the illustration with the route; D. Sterpos: "La viabilità romana e la prima storia del Mugello", Historic-Territorial Documentation Centre for the Mugello, Councillorship for Culture of the Province of Florence and the Municipality of Borgo S. Lorenzo 1982, especially page 4; C. Agostini, V. di Cesare, F. Santi: "La strada Flaminia Militare", Bologna 1989; R. Chevallier, in "Archeologia", 1989, p.74; Fedeli: work cited, *passim*.

²⁶ For further information regarding mixed and masonry medieval bridges (including in Florence), their specifications and the relative bibliography refer to: V. Galliazzo, "Ponte" in "Enciclopedia dell'Arte Medievale", (Enciclopedia Italiana Treccani), volume IX, Rome 1998, pages 626-634.

excluded that an even earlier pre-Roman bridge once stood here which can be dated back to the 10th or 9th century B.C. (a forerunner of the “Ponte Sublicio” in Rome): the large beam dating back to this period found near pier VI would appear to confirm this²⁷.

8 - Our conclusions.

According to Galliazzo, the remains of the discovered structures date back to the Middle Ages (11th-12th centuries).

However, at the base of the north abutment, he noticed a square work technique of probable Roman ascendancy, and goes as far as to say that... *“it can be supposed that this important*

medieval version, was preceded by a wooden bridge of the “pier” or “wooden pile” type (pons sublicius) at least dating back to Roman times...” He then goes on to theorise that the Sieve was probably crossed here in even more remote times: *“It cannot be excluded that an even earlier pre-Roman bridge once stood here which can be dated back to the 10th-9th century B.C. (a forerunner of the “Ponte Sublicio” in Rome); the large beam dating back to this period found near pier VI would appear to confirm this”.*

Therefore, this confirms the persistence of an important Etruscan, Roman and medieval route along the Fiesole-Futa-Bologna axis which always crossed the Sieve in the same point and where the remains of Colombaiotto bridge were unearthed.



Colombaiotto (August 1995): on the edge of the excavation where the remains of the bridge were unearthed, Franco Santi (sitting) discusses when the bridge was probably built with a number of friends and acquaintances. Standing from left: Emanuele Stefanini, Paolo Gucci, Marco Bellini, Carlo Bandini and Andrea Vignoli.

²⁷ For more information regarding the typology and construction techniques of wooden, mixed and masonry bridges in the Roman world, as well as the relative bibliography, refer to: V. Galliazzo: “I Ponti Romani”, volume II, “Catalogo Generale”, Treviso 1994; volume I. “Esperienze preromane - Storia - Analisi architettonica e tipologica-Ornamenti-Rapporti con l’urbanistica- Significato”, Treviso 1995, especially pages 316-326 (wood), 326-327 (mixed), 328-516 (masonry).

This archaeological evidence confirms the intuitions of Daniele Sterpos and Johan Plesner ²⁸ and the opinion of Fedeli from the Superintendency who, although believing the structures to be medieval, considered probable that this crossing was used by the Romans: *“A series of motives, induce one to remember that the latter [the excavation area] must have been used very frequently from Roman times, perhaps in the actual place where the ruins were discovered”* ²⁹.

Therefore, we are convinced that, when the transapennine road was built, Flaminius’ legions followed, improved and straightened the existing Etruscan route, paving it where necessary and they probably used (perhaps reinforced) a wooden bridge that already spanned the river Sieve, as often occurred when military roads were first built near enemy territory.

²⁸ Johan Plesner: work cited, page 33: *“but already during the times of the Lombards, or perhaps even earlier, there were at least two or three direct routes that crossed the river Sieve in the centre of the Mugello valley, where the northern and southern hills meet near the river. One bridge was located at S. Piero a Sieve, at the western end of the largest plain in the valley; another bridge was located further west, near Bilancino at the eastern edge of the smallest plains in the Sieve and which naturally were the least accessible; the third was in Borgo S. Lorenzo di Mugello”*. It is worth pointing out that Plesner is referring to the Lombard period (6th-7th centuries) and even earlier (that is Roman times) and he realises (as did Sterpos) that there must have also been a bridge across the Sieve to the west of Bilancino; underlining that *“at the western edge of the smallest Sieve plain”*, Plesner is referring to the bottleneck in the Sieve valley, where the Colombaiotto bridge was unearthed.

²⁹ Account cited, page 4.

Bilancino reservoir (January 1999): *the rays of the early winter sunset lap the water of the reservoir, which now covers the remains of Colombaiotto bridge. The same fortunate fate which temporarily unearthed its remains has also submerged the bridge forever, as if to honour its centuries-old rest.*



This affirmation is not based on rigorous epigraphic proof, but it is backed up by numerous converging archaeological clues, the authoritative opinion of Galliazzo and the so-called “common sense” that has always advised us to evaluate a discovery within the general context of where it should be logically placed.

For twenty years, we have searched for and uncovered material remains of the Roman road, guided by the route the nature of the area indicated as the most practical and direct way to cross the Apennines. We stopped when we reached the left bank of the river Sieve because of a missing bridge and because all memory of its existence had disappeared.

Then, casual circumstances revealed its remains right where we thought it must have been built.

For this reason, we are profoundly grateful to that fortunate

“fate” which caused these remains to come to light when it was so important to be aware of its existence. Unfortunately, the remains of the bridge saw the light of day for only a few years, nevertheless long enough to document their precious presence.

That same fate later wanted this testimony of ancient civilisation to be sacrificed on the altar of modern civilisation, making the remains disappear once again, perhaps for many centuries, below the 30 metres of water of the Bilancino reservoir.

Now when we stop on the banks of this huge reservoir, we cannot help but feel a great sadness because those submerged ruins will never be seen again. However, their image will remain impressed forever on the pages of this book where they can be admired and viewed by those who unlike us have not experienced the thrill of seeing them.